AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. – 8. (Cancelled)

9.   (Currently Amended) A method for inspecting defects according to claim 8, comprising the steps of:

illuminating light to an inspection object containing repetitive circuit patterns formed on a surface thereof;

detecting an image signal corresponding to transmission light by selectively shielding a diffraction light pattern generated from said repetitive circuit patterns when the illuminating light is reflected from the surface of said inspection object; and

detecting the defects existing on the surface of the inspection object by processing the detected image signal,

wherein:

said selective shielding of said diffraction light pattern in said detecting step is performed by using a micro-mirror array device,

each micro-mirror operation of the micro-mirror array device selectively shields the diffraction light patterns by reflecting the diffract light in a direction where a sensor for detecting the image signal corresponding to the transmission light reflected by each micro-mirror operation cannot receive the selective shielding diffracted light patterns, and

said selective shielding of said diffraction light pattern in said detecting step includes observing a Fourier transform image as the selective shielding

diffracted light patterns in a Fourier transform plane and controlling each micro-mirror operation of the micro-mirror array device in accordance with the Fourier transform image as the selective shielding diffracted light patterns.

10.   (Currently Amended) A method for inspecting defects according to claim 8, comprising the steps of:

illuminating light to an inspection object containing repetitive circuit patterns formed on a surface thereof;

detecting an image signal corresponding to transmission light by selectively shielding a diffraction light pattern generated from said repetitive circuit patterns when the illuminating light is reflected from the surface of said inspection object; and

detecting the defects existing on the surface of the inspection object by processing the detected image signal,

wherein:

said selective shielding of said diffraction light pattern in said detecting step is performed by using a micro-mirror array device,

each micro-mirror operation of the micro-mirror array device selectively shields the diffraction light patterns by reflecting the diffract light in a direction where a sensor for detecting the image signal corresponding to the transmission light reflected by each micro-mirror operation cannot receive the selective shielding diffracted light patterns, and

each micro-mirror operation of the micro-mirror array device is performed so that the each micro-mirror operation is supported by a support provided on a base and is driven by electrostatic attraction and repulsion with an electrode provided on the base.

11.   (Cancelled)

12.   (Currently Amended) An apparatus for inspecting defects ~~according to~~

~~claim 11,~~ comprising:

    an illumination optical system which illuminates light to an inspection object

containing repetitive circuit patterns formed on a surface thereof;

    an optical detection system which detects light reflected from said inspection

object and transmitted through a shield unit, and converts the detected light into an

image signal; and

    a processing system which detects the defects by processing the image

signal detected by said optical detection system;

    wherein:

        said shield unit is provided in said optical detection system to

selectively shield diffracted light patterns coming from the repetitive circuit patterns

existing on the inspection object, and said shielding unit comprises a micro-mirror

array device,

        said shielding unit further comprises an optical system wherein each

micro-mirror operation of the micro-mirror array device selectively shields the

diffraction light patterns by reflecting the diffracted light in a direction where a sensor

for the detected light reflected by each micro-mirror operation of the micro-mirror

array device into the image signal cannot receive the selective shielding diffracted

light patterns, and

        said shielding unit further provides an optical observation unit which

observes a Fourier transform image as the selective shielding diffracted light

patterns in a Fourier transform plane and a control unit which controls each micro-mirror operation of the micro-mirror array device in accordance with the Fourier transform image as the selective shielding diffracted light patterns.

13.   (Currently Amended) An apparatus for inspecting defects ~~according to claim 11,~~comprising:

an illumination optical system which illuminates light to an inspection object containing repetitive circuit patterns formed on a surface thereof;

an optical detection system which detects light reflected from said inspection object and transmitted through a shield unit, and converts the detected light into an image signal; and

a processing system which detects the defects by processing the image signal detected by said optical detection system;

wherein:

said shield unit is provided in said optical detection system to selectively shield diffracted light patterns coming from the repetitive circuit patterns existing on the inspection object, and said shielding unit comprises a micro-mirror array device,

said shielding unit further comprises an optical system wherein each micro-mirror operation of the micro-mirror array device selectively shields the diffraction light patterns by reflecting the diffracted light in a direction where a sensor for the detected light reflected by each micro-mirror operation of the micro-mirror array device into the image signal cannot receive the selective shielding diffracted light patterns, and

each micro-mirror operation of the micro-mirror array device is constructed so that the each micro-mirror is supported by a support being provided on a base and is driven by electrostatic attraction and repulsion with an electrode provided on the base.